

**CLAIMS**

1. A process for the production of hydroxycarboxylic acid esters, in which hydroxycarboxylic acids or hydroxycarboxylic acid salts are reacted with a mixture of alcohols corresponding to general formulae (I)  $R^1\text{-OH}$  and  
5 (II)  $R^2\text{-(C}_2\text{H}_4)_n\text{-OH}$ , where  $R^1$  and  $R^2$  independently of one another represent a saturated or unsaturated, branched or unbranched  $\text{C}_{6-22}$  alkyl group and  $n$  is a number of 1 to 20, at temperatures of 120 to 180°C, characterized in that the compounds of formulae (I) and (II) are used in a ratio by weight of 10:1 to 1:10.
- 10 2. A process as claimed in claim 1, characterized in that citric acid is used as the hydroxycarboxylic acid.
3. A process as claimed in claims 1 and 2, characterized in that the alcohols of formulae (I) and (II) are used in a ratio by weight of 10:1 to 1:1, preferably 9:1 to 1:1, more preferably 4:1 to 1:1 and most preferably 1:1.
- 15 4. A process as claimed in claims 1 to 3, characterized in that the hydroxycarboxylic acid is used in such quantities that the molar ratio of the free carboxyl groups of the hydroxycarboxylic acid to the free OH groups of the alcohols is at most 3.5:1 and preferably 3:1.
- 20 5. A process as claimed in any of claims 1 to 4, characterized in that the reaction is carried out at temperatures of 150 to 170°C and preferably at 160°C.
6. The use of hydroxycarboxylic acid esters produced by reacting hydroxycarboxylic acids or hydroxycarboxylic acid salts with a mixture of alcohols corresponding to general formulae (I)  $R^1\text{-OH}$  and (II)  $R^2\text{-(C}_2\text{H}_4)_n\text{-}$   
25  $\text{OH}$ , where  $R^1$  and  $R^2$  independently of one another represent a saturated or unsaturated, branched or unbranched  $\text{C}_{6-22}$  alkyl group and  $n$  is a number of 1 to 20, at temperatures of 120 to 180°C, characterized in that the compounds of formulae (I) and (II) are used in a ratio by weight of 10:1 to 1:10, in cosmetic water-containing preparations.
- 30 7. The use claimed in claim 6, characterized in that the cosmetic

preparations contain either alkyl ether sulfates or alkyl oligoglycosides or fatty alcohol ethoxylates or mixtures of these surfactants.

8. Hydroxycarboxylic acid esters, characterized in that hydroxycarboxylic acids or hydroxycarboxylic acid salts are reacted with a mixture of alcohols corresponding to general formulae (I)  $R^1-OH$  and (II)  $R^2-(C_2H_4)_n-OH$ , where  $R^1$  and  $R^2$  independently of one another represent a saturated or unsaturated, branched or unbranched  $C_{6-22}$  alkyl group and  $n$  is a number of 1 to 20, at temperatures of 120 to 180°C, characterized in that the compounds of formulae (I) and (II) are used in a ratio by weight of 10:1 to 1:10.

9. Hydroxycarboxylic acid esters as claimed in claim 8, characterized in that the hydroxycarboxylic acid is citric acid.

10. Mixtures of isomeric citric acid esters and optionally free, unesterified citric acid, the mixtures containing esters corresponding to general formula (III):



in which  $R'$ ,  $R''$ ,  $R'''$  represent a hydrogen atom and/or a  $C_{6-22}$  alkyl group and/or an ethoxylated  $C_{6-22}$  alkyl group, the ethoxylated alkyl groups containing 2 to 10 parts ethylene oxide per alkyl group, with the provisos that at least one of the substituents  $R'$ ,  $R''$  and  $R'''$  represents such an ethoxylated alkyl group, the ratio of mono- to diesters in the mixture being 1:1 to 1:2.